

Work Order ID 78364

78364

Page 1

January-05-12 4:37:56 PM

Item ID: D205-634-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube
 Start Date: 05/01/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 23/01/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: M.L.J Date: 12/01/05 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2580-041	Rev.E

100 0.00
100 DOCUMENT CONTROL
 DC Memo 0.00
 Document Control Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

N/A

110 0.00
110 BENDING MACHINE - SKIDTUBES
 CNC Bend 1 Memo 0.00
 CNC Delta 100 Bender 1-Bend as per program D2580.C on CNC Bender and Folio 16
 2-Cut tubes as per Dwg. D2580
 3- scribe batch# in aft end of tube

45 12-01-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Page 2

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N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 05/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120									
Skidtubes	Memo	0.00							
Skidtubes	1- Deburr ends and remove bending marks								
	2- Prepare tube for welding as per QSI 004								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									

MO 12/1/19

1 0 BE12-01-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Page 3

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 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							

140

Skidtubes

Skidtubes

Memo

1-Weld step D2576 as per Dwg. D2580 and QSI 004
 A/R Aluminum Rod *M119712 BE12-05-26*

2-Grind welds on step as per Dwg D2580

3-Weld spacers as per dwg D2580 *H/R M119712 BE12-05-26*

3- *** N/A*** Insert D4202-1 spacer, swage as per QSI002 and trim/ grind
 flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2
 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimention.
Grind Welds

4-Drill holes for wearplates using DT 8217 & DT8937. Open holes to 19/64",
 adjust stopper not to hit web. Deburr

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Deburr

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

BB 12/01/30
DP 12-1-30
CRP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Page 4

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Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC10- Inspect visual per QSI004- ground welds	0.00							
150									
QC	Memo	0.00							
Quality Control									
160	QC5- Inspect part completeness to step on W/O	0.00							
160									
QC	Memo	0.00							
Quality Control									
170	Pressure Wash per QSI005 4.3	0.00							
170									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Page 5

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Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
180									
Powdercoat									
Powder Coating									
	Memo								
	START TIME: 8:30	0.00							
	OVEN TEMPERATURE: 320								
	FINISH TIME: 9:00								
190	QC3- Inspect Part Finish	0.00							
190									
QC									
Quality Control	Memo	0.00							

1X6 M-12/02/01

1 6 M 12/02/01

m11a480

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 6

January-05-12 4:37:56 PM

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1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00

200

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of

Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 11119308Sikaflex expire date: 12/082-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as
per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with

Sikaflex. Clean excess adhesive

A/R Sikaflex-291 11119508Sikaflex expire date: 12/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 11120121 0 1112012

W/O:		WORK ORDER CHANGES					
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Page 7

January-05-12 4:37:56 PM

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Revision ID:

Item Name: Replacement Skidtube

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Start Date: 05/01/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

QC5- Inspect part completeness to step on W/O

0.00

210

QC

Quality Control

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

0.00

012102103

(X)

220

Packaging

0.00

220

Packaging

Packaging

Memo

Identify and pack for shipping as per PPPD205-634-041

Location: _____

PPP Rev: _____

PP 77692

0.00

012102103

230

QC21- Final Inspection - Work Order Release

0.00

230

QC

Quality Control

Memo

0.00

012102103

012102103

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

January-05-12 4:38:00 PM

Page 1

Work Order ID: 78364

78364

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4202-1 Manufactured No

140

Each

0.0000

20

20

D4202-1

D2579

**

Spacer

D2580-1 Manufactured No

110

Each

6.0000

1

1

D2580-1

78240

**

205 Skidtube bent detail

Location

Loc Qty

Loc Code

LG

6

76570

2

77679

2

77680

2

D2576-3 Manufactured No

140

Each

91.0000

1

1

D2576-3

**

Step (maching detail)

Location

Loc Qty

Loc Code

LG

91

70883

41

74136

50

BE 12-01-26
B78371 20

25 12-01-12

BE 12-01-26

✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Page 2

January-05-12 4:38:00 PM

Work Order ID: 78364

78364

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No

200 Each 36.0000 1 1

D2855

Cap

**

B75074 (x1) M 12/02/01

Location

Loc Qty

Loc Code

FP002

36

65519

2

73347

34

AN3-5A Purchased No

200 Each 768.0000 2 2

AN3-5A

Bolt

**

M 12/02/01

Location

Loc Qty

Loc Code

ST350

768

115371

46

117423

222

118626

300

119355

200

AN960JD10L NAS1149D0332J Purchased No

200 Each 0.0000 2 2

***AN960JD10L ***

Washer

**

M 119042 (x2) M 12/07/01

ALS7-1032-130 Purchased No

200 Each 572.0000 50 50

***ALS7-1032-130 ***

Insert

**

M 119084 (x50) M 12/02/01

ALS4-1032-130

Location

Loc Qty

Loc Code

ST280

328

117717

27

118966

22

119775

279

ST281

71

119794

71

ST282

173

119530

173

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 78364

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Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No

200 Each 1,210.000 50 50

AN3C4A

BOLT

** 41 12/02/01

Location	Loc Qty	Loc Code
ST350	1210	
117313	2	
117688	5	
117872	10	
118112	16	
118451	2	
118838	87	
119328	88	
119749	1000	

AN960C10L NAS1149C0332 Purchased No

200 Each 0.0000 50 50

***AN960C10I *** *

washer

** M119736 (x50) 41 12/02/01

D3566-13 Manufactured No

200 Each 67.0000 1 1

D3566-13

Gasket

** 41 12/02/01

Location	Loc Qty	Loc Code
FP002	67	
68341	1	
73322	6	
76947	60	

D3566-5 Manufactured No

200 Each 40.0000 1 1

D3566-5

Gasket

** 41 12/02/01

Location	Loc Qty	Loc Code
FP002	40	
75069	7	
76945	33	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D3566-1 Manufactured No

200 Each 26.0000 2 2

D3566-1

Gasket

**

HL 12/02/01

Location

Loc Qty

Loc Code

FP002

26

68924

2

76941

2

76942

22

D3564-11 Manufactured No

200 Each 8.0000 1 1

D3564-11

Wearshoe

**

HL 12/02/01

Location

Loc Qty

Loc Code

FP001

8

77614

8

D3564-13 Manufactured No

200 Each 50.0000 1 1

D3564-13

Wearshoe

**

HL 12/02/01

Location

Loc Qty

Loc Code

FP001

29

71594

1

75045

13

77610

15

FP002

21

76946

21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D3564-9	Manufactured	No	200	Each	7.0000	1	1
D3564-9							
Wearshoe							
						**	B77613 (x1) MU 12/02/01

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	7	
67590	4	
69943	1	
75071	2	

D3564-5	Manufactured	No	200	Each	37.0000	1	1
D3564-5							
Wearshoe							
						**	MU 12/02/01

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	2	
34806	2	
FP001	35	
73330	1	
<u>76269</u>	19	
76944	15	

D2594-3	Manufactured	No	200	Each	368.0000	16	16
D2594-3							
O-Ring, 205 Skidtube							
						**	MU 12/02/01

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	368	
65518	41	
<u>73490</u>	327	

W/O:		WORK ORDER CHANGES					
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D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2012

Required Date: 23/01/2012

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured	No
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	0
35	0
36	0
37	0
38	0
39	0
40	0
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	0
56	0
57	0
58	0
59	0
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
70	0
71	0
72	0
73	0
74	0
75	0
76	0
77	0
78	0
79	0
80	0
81	0
82	0
83	0
84	0
85	0
86	0
87	0
88	0
89	0
90	0
91	0
92	0
93	0
94	0
95	0
96	0
97	0
98	0
99	0
100	0

200

Each

384.0000

16

16

D2594-1

u

17/07/0

Plug, 205 Skidtube

Location

Loc Qty

Loc Code

FP001

384

73401

30

74442

34

74869

184

76075

136

x16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

LIST OF MATERIALS					PART NUMBER	DESCRIPTION
ITEM	QTY -041	QTY -045	QTY -047			
1	X				D2580-041	SKIDTUBE ASSEMBLY
2		X			D2580-045	SKIDTUBE ASSEMBLY
3			X		D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1		D2500-1-190	EXTRUSION
5			16		D2570	BUSHING
6	1	1	1		D2576-3	STEP
7	20	24	25		D2579	SPACER
8	16	16	8		D2594-1	PLUG
9	16	16	8		D2594-3	O-RING
10	1	1	1		D2596	205 WEB
11	1	1	1		D2855	AFT CAP
12	1	1			D3564-5	WEARSHOE
13	1	1			D3564-9	WEARSHOE
14	1	1			D3564-11	WEARSHOE
15	1	1			D3564-13	WEARSHOE
16	2	2			D3566-1	GASKET
17	1	1			D3566-5	GASKET
18	1	1			D3566-13	GASKET
19			1		D4406-041	WEARPLATE ASSEMBLY
20			1		D4406-043	WEARPLATE ASSEMBLY
21	50	50			ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50			AN3C4A	BOLT
23	2	2	2		AN3-5A	BOLT
24			8		AN4-45A	BOLT
25	50	50			NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2		NAS1149D0332J	WASHER (AN960JD10L)
27			8		MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 37.7 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/291.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

DEO ATTACHED

RELEASED
2011-08-29

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK UNDER
NO. 78364 M.C.J

12/01/05

E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 1 OF 8
APPROVED	10	TITLE	SCALE
DE APPR.	10	205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21	COPYRIGHT © 1998 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

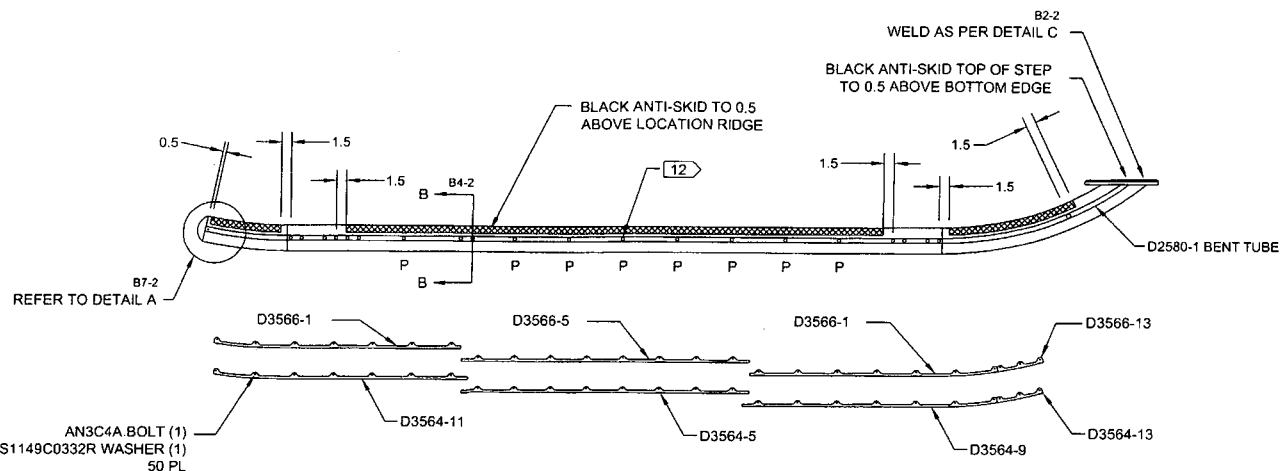
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

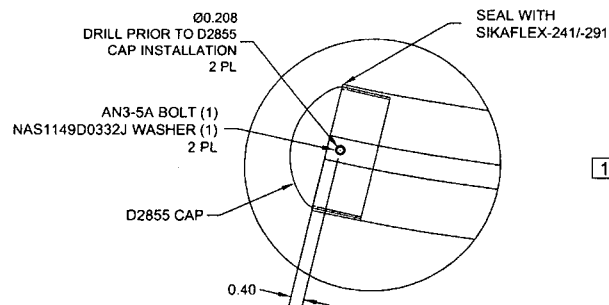
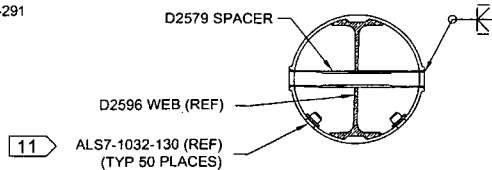
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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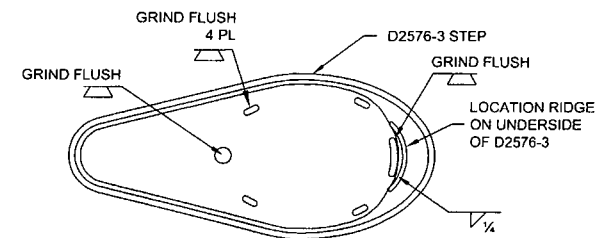


D2580-041 ASSEMBLY DETAIL

DETAIL A C7-2
SCALE 5XSECTION B-B D5-2
SCALE 5X

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DETAIL C D3-2
SCALE 5X

DEO ATTACHED

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2011-08-29

DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 2 OF 8
APPROVED	10	TITLE	SCALE
DE APPR.	10	205 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

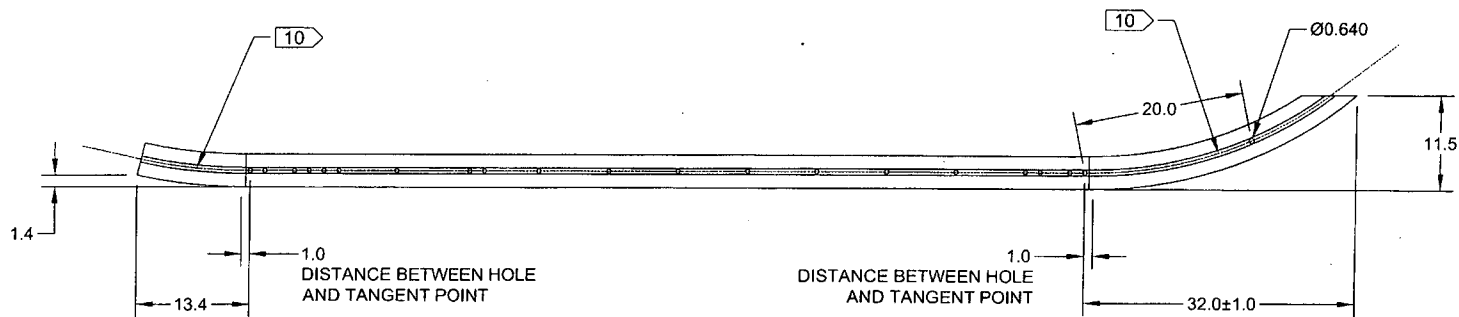
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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D2580-1 BENT TUBE
(MAKE FROM D2580-10T TUBE)

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2011-08-28
JW

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	140	DRAWING NO.	REV. E
MFG. APPR.	140	D2580	SHEET 3 OF 8
APPROVED	140	TITLE	SCALE
DE APPR.	140	205 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

0.5

REFER TO DETAIL E
B7-5

NO C'BORE
NO PLUG

1.5

F

B4-5

P P P P P P P P

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE

NO C'BORE
NO PLUG

12

WELD AS PER DETAIL G

B2-5

BLACK ANTI-SKID TOP OF STEP
TO 0.5 ABOVE BOTTOM EDGE

1.5

D2580-5 BENT TUBE

NO C'BORE
NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
50 PL

DETAIL E
SCALE 5X

Ø0.208
DRILL PRIOR TO D2855
CAP INSTALLATION
2 PL

AN3-5A BOLT (1)
NAS1149D0332J WASHER (1)
2 PL

D2855 CAP

SEAL WITH
SIKAFLEX-241/-291

0.40

13

D2579 SPACER

D2596 WEB (REF)

11

ALS7-1032-130 (REF)
(TYP 50 PLACES)

Diagram illustrating the underside of the D2576-3 component, showing the location of the grinding ridge and the grinding flush area. The diagram includes the following labels:

- GRIND FLUSH 4 PL
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576-3
- 1/4

DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2580 TITLE 205 SKIDTOE ASSEMBLY COPYRIGHT © 1996 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED TO THE EMPLOYEE COMPANY THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	REV. B
DRAWN	RF		SHEET 4 OF 4
CHECKED	10		SCALE
MFG. APPR.	10		NT
APPROVED	10		
DE APPR.	4		
DATE	11.06.21		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

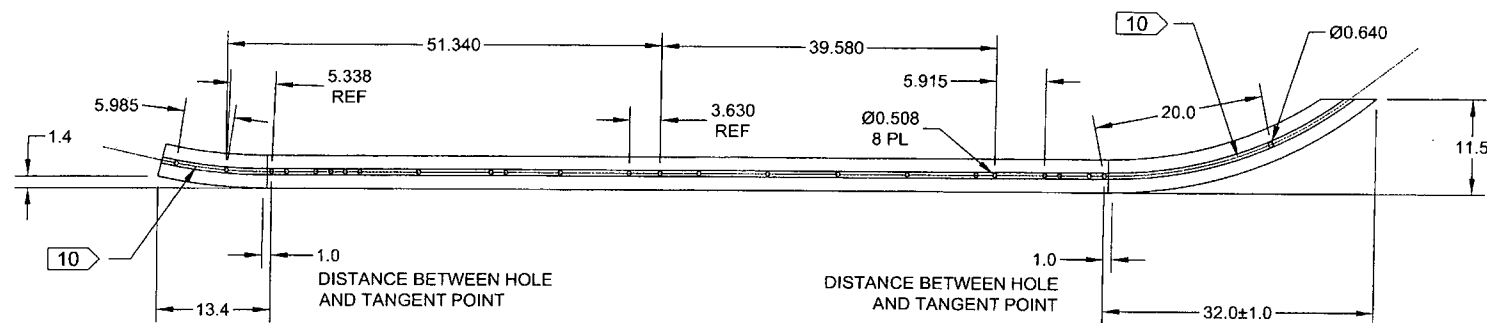
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2011-08-29

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	140	DRAWING NO.	REV. E
MFG. APPR.	140	D2580	SHEET 5 OF 8
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

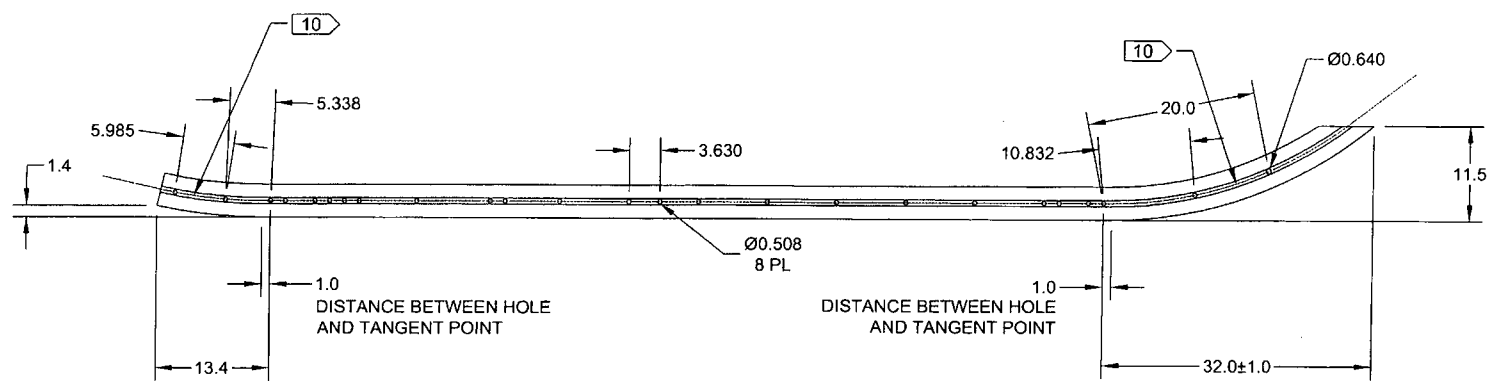
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)



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2011-08-29
WJP

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D2580	SHEET 7 OF 8
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	205 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

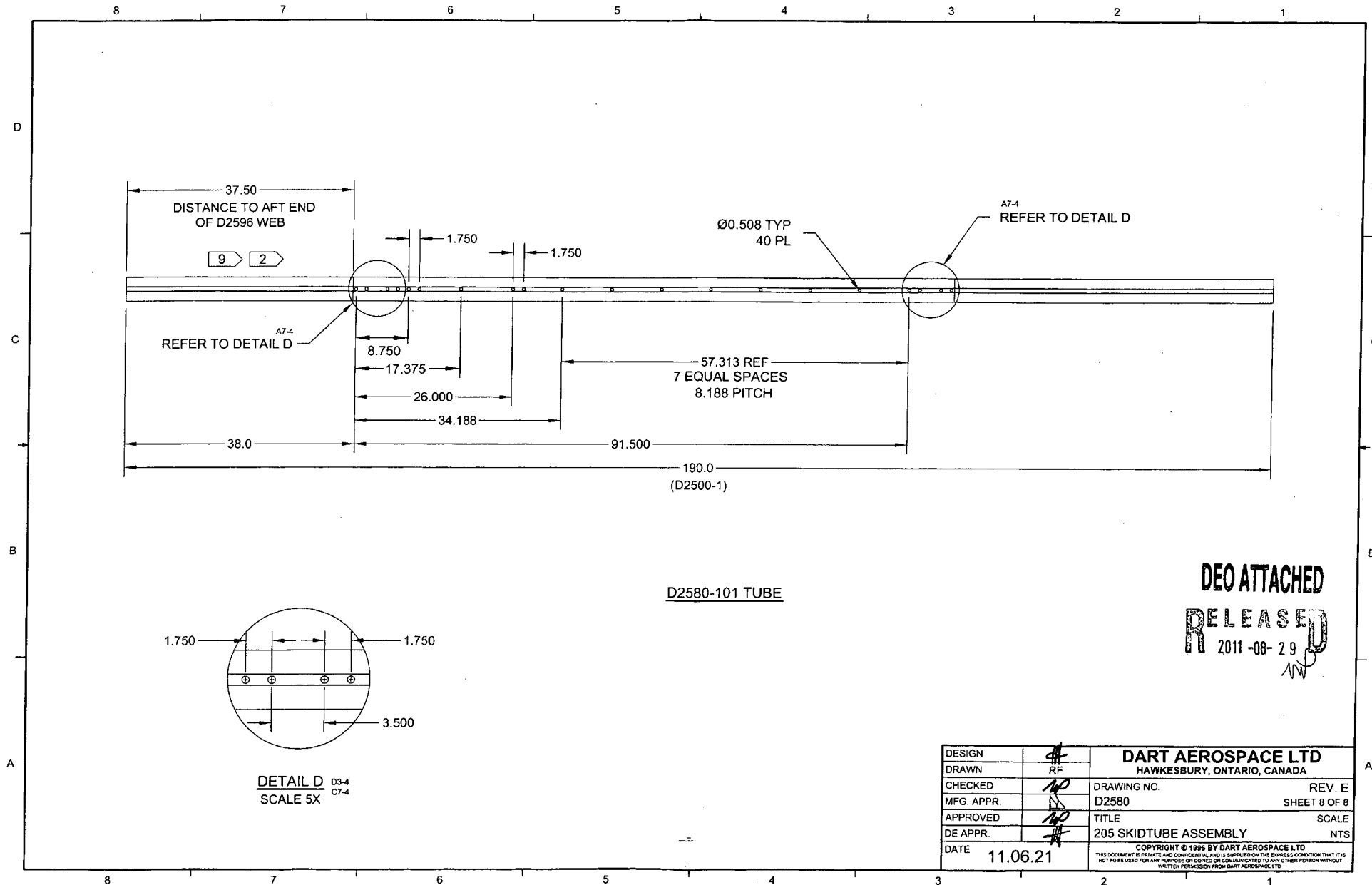
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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RELEASED
R 2011-08-29

DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RP	DRAWING NO.	REV. E
MFG. APPR.	RP	D2580	SHEET 8 OF 8
APPROVED	RP	TITLE	SCALE
DE APPR.	RP	205 SKIDTUBE ASSEMBLY	NTS
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

70364

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-E-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>JP</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>ER</i>	APPROVED <i>HA</i>		DE APPR. <i>HA</i>		
DATE 11.12.13	DATE 11.12.13	DATE 11.12.13	DATE 11.12.13		DATE 11.12.13		

PURPOSE:

CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

WAS

QTY	QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045	-047		
20	24	25	D2579	CROSS BOLT SPACER

IS

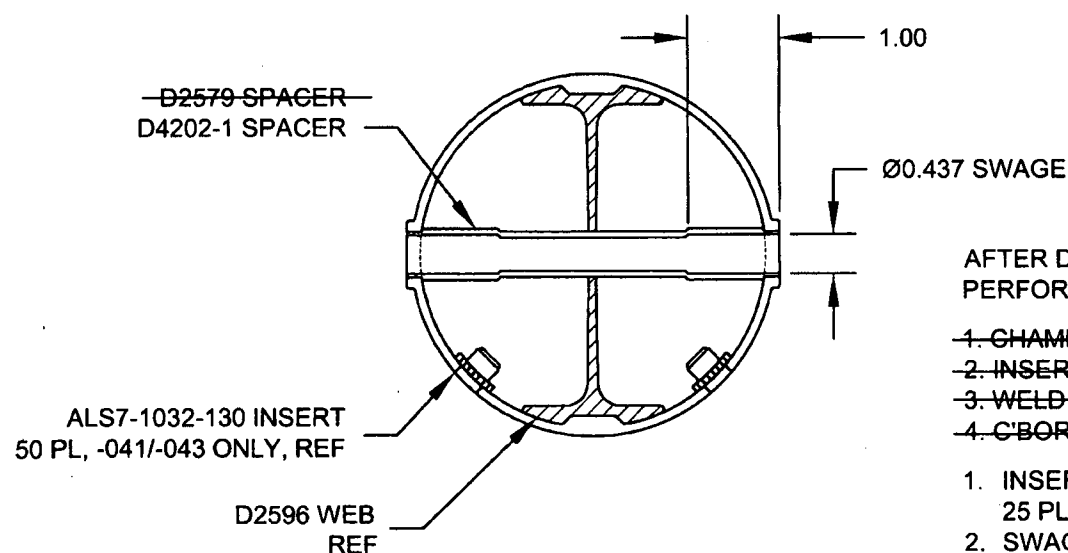
	4		* D2579	CROSS BOLT SPACER
20	20	25	D4202-1	SPACER

SECTION B-B, SECTION F-F, & SECTION I-I ARE AMENDED AS FOLLOWS
FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:

*** FOR -045 SKIDTUBE ONLY:**

WELD 4X D2579 SPACERS PER DWG
IN LOCATIONS MARKED "NO C'BORE".
REF SHEET 4 OF DWG.

RELEASED
2011-12-14



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

- ~~1. CHAMFER HOLE 0.060 X 45°~~
- ~~2. INSERT D2579 SPACER (20 PLACES)~~
- ~~3. WELD INTO PLACE AND GRIND FLUSH~~
- ~~4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP~~

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 20 PL (-045) OR 25 PL (-047)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

SECTION B-B, F-F, I-I
NOT TO SCALE

W/O:		WORK ORDER CHANGES					
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NO. 280

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 78496
Part number: D205-634-144
Description: SKID tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier: David Dand Date of Test Coupon 12.01.11

Welder: Barclay Elliott Date of Test Coupon 12.01.11

The above named individual is qualified in accordance with AWS D17.1.2001 to weld